IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors:	Brian Scott Hallisey, et al.	Examiner: Nicholas Augustine
Serial No.:	10/647,210	Group Art Unit: 2179
Filed:	August 26, 2003	Docket No.: 200206455-1
Title:	Methods of Displaying Resources of Overlapping But Separate Hierarchies	

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
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Sir:

This Appeal Brief is filed in response to the Final Office Action mailed February 3, 2010 and Notice of Appeal mailed May 3, 2010.

AUTHORIZATION TO DEBIT ACCOUNT

It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's deposit account no. 08-2025.

I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 11445 Compaq Center Drive West, Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences known to Appellant, Appellant's legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Appeal Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1 – 3 and 5 – 25 are pending in the application and stand finally rejected. Claim 4 was canceled. The rejection of claims 1 – 3 and 5 – 25 is appealed.

IV. STATUS OF AMENDMENTS

No amendments were made after receipt of the Final Office Action. All amendments have been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element or that these are the sole sources in the specification supporting the claim features.

Claim 1

A method of using a Graphical User Interface (GUI) to display relationships amongst resources of a system, the method comprising:

illustrating at least two overlapping but separate hierarchies in a same mosaic-like graphic, each of said separate hierarchies representing one or more of the relationships amongst the resources; and (Figure 3A shows a mosaic-like pane 300 showing a first hierarchy of storage resources 301 and a second hierarchy of storage resources 303. LUNs 304 and 306 report to (i.e., are hierarchical children of) a first parent array 302. At the same time, LUNs 304, 306, and 308 report to (i.e., are hierarchical children of) a different parent VG 310. Thus, LUNs 304 and 306 overlap between two different hierarchies. See p. 6, line 1 of paragraph [0023] – p. 7, line 8 of paragraph [0026]. Figure 3B further shows how LUN 308 belongs or reports to two different hierarchical parents: VG 310 and JBOD 320.)

arranging said resources representing same type of resources into columns, wherein adjacent columns group different resources, and a row intersecting adjacent columns indicates relationships between particular resources of the respective column, wherein the mosaic-like graphic depicts a logical unit number (LUN) occupying a rank in both of the two overlapping but

separate hierarchies. (Figure 3B in Appellants' specification shows that LUNs 304, 306, 308, 322, 324, and 336 are all of the same resource type and arranged in a same column. Other resources (such as Volume Groups 310, 326, and 338) are also arranged in a same column. Rows that intersect a column indicate a relationship between resources. For example, the row with LUN 306 indicates a relationship with both Array 302 and VG 310. See p. 8, line 1 of paragraph [0029] – p. 8, line 10 of paragraph [0030].)

Claim 14

A method of controlling relationships amongst resources of a system, wherein said resources are iconically represented and illustrated on a Graphical User Interface (GUI), comprising:

manipulating a relationship of the resources in said iconically illustrated system; and (Attributes of a resource (example, storage capacity) are changed by right-clicking on an icon and changing the attribute. Upon completing the changes, the system automatically updates the mosaic-like pane and re-sizes the icon: see paragraph [0033] on page 9)

re-sizing areas of, in response to said manipulating, relative footprints of said icons according to an effect upon respective ones of the resources caused by the manipulating the relationship, wherein the relationships of the resources are shown in a hierarchical tree from placement of icons in columns with resources of a same type being in a same column and a resource is shown as being a child to separate hierarchical trees that depict storage resources. (Icons having a physical larger size on the display correspond to larger storage capacity. For example, LUN 306 in Figure 3A has a larger storage capacity than LUN 308 because LUN 306 is larger than LUN 308. When a user changes the storage capacity of the LUN (example, LUN 306 or 308), the system resizes the corresponding icon to make the icon larger if the storage capacity increased or smaller if the storage capacity decreased. See p. 9, line 1 of paragraph [0032] – p. 10, line 9 of [0033])

Claim 18

A method of displaying relationships amongst first, second and third types of resources of a system, the method comprising:

preparing a graphic of at least two separate but overlapping hierarchies such that   (Figure 3A shows a mosaic-like pane 300 showing a first hierarchy of storage resources 301 and a second hierarchy of storage resources 303. LUNs 304 and 306 report to (i.e., are hierarchical children of) a first parent array 302. At the same time, LUNs 304, 306, and 308 report to (i.e., are hierarchical children of) a different parent VG 310. Thus, LUNs 304 and 306 overlap between two different hierarchies. See p. 6, line 1 of paragraph [0023] – p. 7, line 8 of paragraph [0026])

viewing the graphic in a first direction represents a first one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the second resource type, and (The mosaic-like pane 300 in Figure 3A can be viewed in a first direction from left to right or a second direction right to left. When viewing the pane in the first direction (i.e., left to right), array 302 is viewed as the parent of LUNs 304 and 306: see p. 8 at paragraph [0030])

viewing the graphic in a second direction different from the first direction represents a second one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the third resource type; and(The mosaic-like pane 300 of Figure 3A can be viewed in the second direction (i.e., right to left). When viewing the pane in the second direction, VG 310 is viewed as the parent of LUNs 304, 306, and 308: see p. 8 at paragraph [0030])

displaying the graphic. (Figure 3A shows a mosaic-like pane 300)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1 – 3 and 5 – 25 are rejected under 35 USC § 103(a) as being obvious over US publication number 2003/0085914 (Takaoka) in view of US publication number 2003/0130821 (Anslow).

VII. ARGUMENT

The rejection of claims 1 – 3 and 5 – 25 is improper, and Appellants respectfully request reversal of these rejections.

The claims do not stand or fall together. Instead, Appellants present separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-heading as required by 37 C.F.R. § 41.37(c)(1)(vii).

Claim Rejections: 35 USC § 103(a)

Claims 1 – 3 and 5 – 25 are rejected under 35 USC § 103(a) as being obvious over US publication number 2003/0085914 (Takaoka) in view of US publication number 2003/0130821 (Anslow). These rejections are traversed.

Principles of Law: Obviousness

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007):

> Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. Quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966).

As set forth in MPEP 2143.03, to ascertain the differences between the prior art and the claims at issue, "[a]ll claim limitations must be considered" because "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385.

According to the Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in view of *KSR International Co. v. Teleflex Inc.*, Federal Register, Vol. 72, No. 195, 57526, 57529 (October 10, 2007), once the *Graham* factual inquiries are resolved, there must be a determination of whether the claimed invention would have been obvious to one of ordinary skill in the art based on any one of the following proper rationales:

(A) Combining prior art elements according to known methods to yield predictable results; (B) Simple substitution of one known element for another to obtain predictable results; (C) Use of known technique to improve similar devices (methods, or products) in the same way; (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (E) "Obvious to try"— choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

Furthermore, as set forth in *KSR International Co. v. Teleflex Inc.*, quoting from *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006), "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements;

instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

Therefore, if the above-identified criteria and rationales are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

Differences Between the Art and Claims

Claims 1 – 3 and 5 – 25 recite one or more elements that are not taught or suggested in Takaoka in view of Anslow. These missing elements show that the differences between the combined teachings in the art and the recitations in the claims are great. As such, the pending claims are not a predictable variation of the art to one of ordinary skill in the art.

These differences are shown below and presented with separate headings for different claim groups.

Sub-Heading: Claims 1 – 3 and 5 – 13

Claim 1 is selected for discussion.

As one example, independent claim 1 recites that the mosaic-like graphic depicts a logical unit number (LUN) occupying a rank in both of the two overlapping but separate hierarchies. Takaoka in view of Anslow does not teach or suggest these recitations.

Figure 8 in Takaoka shows ports 1031 and 1032 to a same storage device. As shown in Fig. 1, ports 35a (shown in Fig. 8 as 1031) and 35b (shown in Fig. 8 as 1032) belong to the same storage device 3. The LUNs 33a, 33b, 33c, and 33d are also in the same hierarchical tree. The LUNs in Takaoka do not occupy a rank in two overlapping but separate hierarchies. Anslow fails to cure these deficiencies.

As another example, claim 1 recites a row intersecting adjacent columns indicates relationships between particular resources of the respective column. Takaoka in view of Anslow does not teach or suggest these recitations.

Figure 8 in Takaoka shows resources arranged in rows and columns. Takaoko does not show a row intersecting adjacent columns with this row indicating relationships between particular resources of the respective column. Anslow fails to cure these deficiencies.

The differences between the claims and the teachings in the art are great since the references fail to teach or suggest all of the claim elements. As such, the pending claims are not a predictable variation of the art to one of ordinary skill in the art.

For at least these reasons, claims 1 – 3 and 5 – 13 are allowable over Takaoko in view of Anslow.

Sub-Heading: Claims 14 – 17

Claim 14 is selected for discussion.

As one example, independent claim 14 recites that a resource is shown as being a child to separate hierarchical trees that depict storage resources. Takaoka in view of Anslow does not teach or suggest these recitations.

Figure 8 in Takaoka shows ports 1031 and 1032 to a same storage device. As shown in Fig. 1, ports 35a (shown in Fig. 8 as 1031) and 35b (shown in Fig. 8 as 1032) belong to the same storage device 3. The LUNs 33a, 33b, 33c, and 33d are also in the same hierarchical tree. Takaoka does not show a resource as being a child to separate hierarchical trees that depict storage resources. Anslow fails to cure these deficiencies.

The differences between the claims and the teachings in the art are great since the references fail to teach or suggest all of the claim elements. As such, the pending claims are not a predictable variation of the art to one of ordinary skill in the art.

For at least these reasons, claims 14 – 17 are allowable over Takaoko in view of Anslow.

Sub-Heading: Claims 18 – 25

Claim 18 is selected for discussion.

As one example, claim 18 recites viewing the graphic in a first direction represents a first one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the second resource type. The claim then recites viewing the graphic in a second direction different from the first direction represents a second one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the third resource type. Takaoka in view of Anslow does not teach or suggest these recitations.

Figure 8 in Takaoka shows ports 1031 and 1032 to a same storage device. As shown in Fig. 1, ports 35a (shown in Fig. 8 as 1031) and 35b (shown in Fig. 8 as 1032) belong to the same storage device 3. The LUNs 33a, 33b, 33c, and 33d are also in the same hierarchical tree. Takaoka does not show viewing the graphic in a first direction represents a first one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the second resource type, and viewing the graphic in a second direction different from the first direction represents a second one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the third resource type. Anslow fails to cure these deficiencies.

The differences between the claims and the teachings in the art are great since the references fail to teach or suggest all of the claim elements. As such, the pending claims are not a predictable variation of the art to one of ordinary skill in the art.

For at least these reasons, claims 18 – 25 are allowable over Takaoko in view of Anslow.

Sub-Heading: Claim 2

Dependent claim 2 recites that the resources are represented by icons, and sizing the icons is in proportion to at least one attribute of the represented resource. The examiner argues that this claim element is taught in Takaoka at lines 69-70 of paragraph [0016]. Appellants respectfully traverse.

Takaoka at lines 69-70 of paragraph [0016] teaches that position and size of the area can be changed by an input means. Takaoka, however, never suggests that sizing of the icons is in proportion to at least one attribute of the represented resource. Where does Takaoka teach that sizes of the icons are proportion to an attribute of the resource? Takaoka does not. Instead, Takaoka merely states that the position and size of an area can be changed with an input means, but no suggestion is given about the specifics of the size of the area (i.e., that sizing of icons is proportion to an attribute of a represented resource).

For at least these reasons, claim 2 is allowable over Takaoko in view of Anslow.

Sub-Heading: Claim 3

Claim 1 recites that the mosaic-like graphic depicts a LUN occupying a rank in both of the two overlapping but separate hierarchies. Dependent claim 3 then recites that this LUN is a child in separate hierarchical trees. The examiner argues that this claim element is taught in Takaoka at paragraph [0246] and Anslow at paragraphs [0121] – [0123]. Appellants respectfully traverse.

Takaoka at paragraph [0246] teaches that identifiers of computer port symbols and logical unit symbols are acquired from a table. Records are removed from this table when computer symbols and logical unit symbols do not belong to the area as a result of an area size or position change.

Anslow at paragraphs [0121] – [0123] relates to Figures 31 and 32 which show how connections between devices and symbols are rendered on a chart of a UI window. Figure 31 merely shows hosts connected to switches and storage. Figure 32 shows storage devices in one column, switches in another column, and

hosts in a third column. A line between a storage device, switch, and hosts shows a connection between these devices.

The combination of Takaoka at paragraph [0246] and Anslow at paragraphs [0121] – [0123] teaches that identifiers of computer port symbols and logical unit symbols are acquired from a table and then removed from this table when the symbols do not belong to the area. The combination also teaches that a user interface can show these symbols and connections between devices.

Nowhere does this combination teach or even suggest a mosaic-like graphic that depicts a LUN occupying a rank in both of the two overlapping but separate hierarchies with this LUN being a child in separate hierarchical trees.

For at least these reasons, claim 3 is allowable over Takaoko in view of Anslow.

Sub-Heading: Claim 7

Claim 1 recites that the mosaic-like graphic depicts a LUN occupying a rank in both of the two overlapping but separate hierarchies. Dependent claim 7 then recites that this LUN reports to a volume group (VG) in one storage resources and a just a bunch of disks (JBOD) in another storage resource.

The examiner appears to equate claim 7 with claim 6 and only argues JBOD teachings in paragraphs [0034] and [0121] in Anslow. The examiner has failed to establish a prima facie case to reject claim 7 because **the examiner has not identified a location in the art for rejecting all of the recitations of claim 7**. For example, the examiner has failed to identify a location in Takaoka in view of Anslow for teaching a LUN that reports to both a VG in one storage resource and a JBOD in another storage resource. The citations of the examiner only show a JBOD.

Takaoka in view of Anslow fails to teach or suggest a mosaic-like graphic that depicts a LUN occupying a rank in both of the two overlapping but separate hierarchies with this LUN reporting to a VG in one storage resources and a JBOD in another storage resource.

For at least these reasons, claim 7 is allowable over Takaoko in view of Anslow.

Sub-Heading: Claim 8

Claim 1 recites that the mosaic-like graphic depicts a LUN occupying a rank in both of the two overlapping but separate hierarchies. Dependent claim 8 then recites simultaneously displaying in the mosaic-like graphic icons of LUNs in one column, icons of volume groups (VGs) in a second column, and icons of file volumes (FVs) in a third column. The examiner argues that this claim element is taught in Anslow at paragraphs [0034] – [0035] and [0121] – [0123]. Appellants respectfully traverse.

Anslow at paragraphs [0034] – [0035] relate to Figure 1 which shows hosts connected to switches and storage, and to Figure 2 which shows a SAN connected to a SAN management system.

Anslow at paragraphs [0121] – [0123] relates to Figures 31 and 32 which show how connections between devices and symbols are rendered on a chart of a UI window. Figure 31 merely shows hosts connected to switches and storage. Figure 32 shows storage devices in one column, switches in another column, and hosts in a third column. A line between a storage device, switch, and hosts shows a connection between these devices.

Anslow at paragraphs [0034] – [0035] and [0121] – [0123] fails to teach or suggest simultaneously displaying in the mosaic-like graphic icons of LUNs in one column, icons of volume groups (VGs) in a second column, and icons of file volumes (FVs) in a third column. Instead, these paragraphs merely show generic connections of hosts to storage and switches. Where are the VGs and FVs in the figures of Anslow? They do not exist.

For at least these reasons, claim 8 is allowable over Takaoko in view of Anslow.

Sub-Heading: Claim 9

Dependent claim 9 recites that arrays, LUNs, and volume groups are simultaneously displayed in separate columns. The examiner argues that this claim element is taught in Anslow at paragraphs [0121] – [0123]. Appellants respectfully traverse.

Anslow at paragraphs [0121] – [0123] relates to Figures 31 and 32 which show how connections between devices and symbols are rendered on a chart of a UI window. Figure 31 merely shows hosts connected to switches and storage. Figure 32 shows storage devices in one column, switches in another column, and hosts in a third column. A line between a storage device, switch, and hosts shows a connection between these devices.

Anslow at paragraphs [0121] – [0123] fails to teach or suggest arrays, LUNs, and volume groups are simultaneously displayed in separate columns. Instead, these paragraphs merely show generic connections of hosts to storage and switches. Where does Anslow teach or suggest simultaneously showing arrays, LUNs, and VGs? Anslow does not. Instead, Anslow shows simultaneously showing storage devices in one column, switches in another column, and hosts in a third column.

For at least these reasons, claim 9 is allowable over Takaoko in view of Anslow.

Sub-Heading: Claim 10

Dependent claim 10 recites restructuring, in response to receiving said indication, said at least two overlapping but separate hierarchies and corresponding said first mosaic-like pane by at least re-sizing said icons proportional to a change in said at least one attribute of said represented resources, compared to a footprint of said at least one attribute prior to receiving said indication. The examiner argues that this claim element is taught in Takaoko at paragraphs [0069] – [0070]. Appellants respectfully traverse.

Takaoko at paragraph [0069] teaches that a user can move port and storage device symbols on a screen in a drag-and-drop operation.

Takaoko at paragraph [0070] relates to Figure 9 showing a management program which interprets user commands and changes security device settings.

Nowhere do paragraphs [0069] – [0070] teach or even suggest restructuring, in response to receiving said indication, said at least two overlapping but separate hierarchies and corresponding said first mosaic-like pane by at least re-sizing said icons proportional to a change in said at least one attribute of said represented resources, compared to a footprint of said at least one attribute prior to receiving said indication.

For at least these reasons, claim 10 is allowable over Takaoko in view of Anslow.

CONCLUSION

In view of the above, Appellants respectfully request the Board of Appeals to reverse the Examiner's rejection of all pending claims.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. 832-236-5529. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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VIII. Claims Appendix

1. A method of using a Graphical User Interface (GUI) to display relationships amongst resources of a system, the method comprising:

illustrating at least two overlapping but separate hierarchies in a same mosaic-like graphic, each of said separate hierarchies representing one or more of the relationships amongst the resources; and

arranging said resources representing same type of resources into columns, wherein adjacent columns group different resources, and a row intersecting adjacent columns indicates relationships between particular resources of the respective column, wherein the mosaic-like graphic depicts a logical unit number (LUN) occupying a rank in both of the two overlapping but separate hierarchies.

2. The method of claim 1, wherein said resources are represented by icons and, further comprising:

sizing said icons in proportion to said at least one attribute of said represented resource.

3. The method of claim 1, wherein said LUN is a child in separate hierarchical trees.

4. (canceled)

5. The method of claim 2, further comprising:

labeling one hierarchical column and one hierarchical rows with an

indication of at least one common feature.

6. The method of claim 2, further comprising:

interacting with at least one said icon of said mosaic-like graphic, wherein

said interaction results in a change in said at least one attribute of said

represented resource; and

in response to said interaction, restructuring a first mosaic-like pane by at

least

re-sizing said icons proportional to a change in said at least one attribute

of said represented resources, compared to a footprint of said at least one

attribute prior to said interaction.

7. The method of claim 1, wherein said LUN reports to a volume group (VG) in

one storage resources and a just a bunch of disks (JBOD) in another storage

resource.

8. The method of claim 1 further comprising: simultaneously displaying in the

mosaic-like graphic icons of LUNs in one column, icons of volume groups (VGs)

in a second column, and icons of file volumes (FVs) in a third column.

9. The method of claim 1, wherein arrays, LUNs, and volume groups are simultaneously displayed in separate columns.

10. The method of claim 2, wherein the mosaic-like graphic is a first mosaic-like graphic, the method further comprising illustrating a first mosaic-like pane and a second mosaic-like pane containing independent icons representative of resources that may be added to said at least two overlapping but separate hierarchies, comprising:

receiving an indication of a new relationship developed between a resource of a type represented in said second mosaic-like pane and the resources represented in said first mosaic-like pane; and

restructuring, in response to receiving said indication, said at least two overlapping but separate hierarchies and corresponding said first mosaic-like pane by at least re-sizing said icons proportional to a change in said at least one attribute of said represented resources, compared to a footprint of said at least one attribute prior to receiving said indication.

11. The method of claim 10, wherein said receiving an indication step, comprises:

processing a drag-and-drop of at least one said independent icon from said second mosaic-like pane to said first mosaic-like pane.

12. The method of claim 11, further comprising:

rejecting said processing of an invalid said drag-and-drop.

13. The method of claim 11, further comprising:

in response to said processing step, displaying a pop-up window for receiving changes to said attributes.

14. A method of controlling relationships amongst resources of a system, wherein said resources are iconically represented and illustrated on a Graphical User Interface (GUI), comprising:

manipulating a relationship of the resources in said iconically illustrated system; and

re-sizing areas of, in response to said manipulating, relative footprints of said icons according to an effect upon respective ones of the resources caused by the manipulating the relationship, wherein the relationships of the resources are shown in a hierarchical tree from placement of icons in columns with resources of a same type being in a same column and a resource is shown as being a child to separate hierarchical trees that depict storage resources.

15. The method of claim 14, wherein said manipulating step comprises:

interacting with at least one icon, representative of one said resource in said iconically illustrated system to initiate a change of at least one attribute of said represented resource.

16. The method of claim 15, wherein said initiating step comprises:

displaying, in response to said interaction step, attributes of said

represented resource, wherein said attributes are changeable; and

indicating changes to said at least one attribute through the

operation of at least one peripheral device.

17. The method of claim 16, wherein said displaying attributes step comprises:

illustrating said attributes in a pop-up window.

18. A method of displaying relationships amongst first, second and third types of

resources of a system, the method comprising:

preparing a graphic of at least two separate but overlapping hierarchies

such that

viewing the graphic in a first direction represents a first one of said

separate but overlapping hierarchies in which ones of the first resource type

report hierarchically to ones of the second resource type, and

viewing the graphic in a second direction different from the first

direction represents a second one of said separate but overlapping hierarchies in

which ones of the first resource type report hierarchically to ones of the third

resource type; and

displaying the graphic.

19. The method of claim 18, wherein the graphic is mosaic-like.

20. The method of claim 19, wherein each of the first, second and third resources

is represented as an iconic element of the mosaic-like graphic that includes

logical unit numbers (LUNs), arrays, and volume groups.

21. The method of claim 18, wherein

the first one of said separate but overlapping hierarchies represents

physical storage resources of a storage system, and

the second one of said separate but overlapping hierarchies represents

logical storage resources of the storage system.

22. The method of claim 18, wherein the second direction is opposite to the first

direction.

23. The method of claim 18, wherein said first, second and third types of

resources are represented by icons, further comprising:

sizing said icons in proportion to at least one attribute of said represented

resource.

24. The method of claim 23, wherein said at least one attribute is storage

capacity.

25. The method of claim 23, further comprising:

arranging said icons representing same type of resources into columns, wherein adjacent columns group different resources, and a row intersecting adjacent columns indicate relationships between particular resources of the respective column.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.